Claim 81: An isolated nucleic acid molecule which encodes a cancer associated antigen, the complementary sequence of which hybridizes, in whole or in part, to at least one of a nucleic acid molecule, the nucleotide sequence consists of the nucleotide sequence of SEQ ID NO: 15, SEQ ID NO: 22, or SEQ ID NO: 26.

Claim 82: The isolated nucleic acid molecule of claim 81, the nucleotide sequence of which comprises the nucleotide sequence of SEQ ID NO: 15, SEQ ID NO: 22, or SEQ ID NO: 26.

Claim 83: The isolated nucleic acid molecule of claim 82, comprising the nucleotide sequence of SEQ ID NO: 15.

Claim 84: The isolated nucleic acid molecule of claim 82, comprising the nucleotide sequence of SEQ ID NO: 22.

Claim 85: The isolated nucleic acid molecule of claim 82, comprising the nucleotide sequence of SEQ ID NO: 26.

Claim 86: Expression vector comprising the isolated nucleic acid molecule of claim 81, operably linked to a promoter.

Claim 87: Eukaryotic cell line or prokaryotic cell strain, transformed or transfected with the expression vector of claim 86.

Claim 88: Eukaryotic cell line or prokaryotic cell strain, transformed or transfected with the isolated nucleic acid molecule of claim 81.

Claim 89: Isolated cancer associated antigen comprising all or part of the amino acid sequence encoded by SEQ ID NO: 15, 22 or 26.

Claim 90: The eukaryotic cell line or prokaryotic cell strain of claim 88, wherein said cell line is also transfected with a nucleic acid molecule coding for a cytokine.

Claim 91: The eukaryotic cell line or prokaryotic cell strain of claim 90, wherein said cell line is further transfected by a nucleic acid molecule coding for an MHC molecule.

Claim 92: The eukaryotic cell line or prokaryotic cell strain of claim 90, wherein said cytokine is an interleukin.

Claim 93: The eukaryotic cell line or prokaryotic cell strain of claim 92, wherein said interleukin is IL-2, IL-4 or IL-12.

Claim 94: The eukaryotic cell line or prokaryotic cell strain of claim 88, wherein said cell line has been rendered non-proliferative.

Claim 95: The eukaryotic cell line of claim 88, wherein said cell line is a fibroblast cell line.

Claim 96: Expression vector comprising a mutated or attenuated virus and the isolated nucleic acid molecule of claim 81.

Claim 97: The expression vector of claim 96, wherein said virus is adenovirus or vaccinia virus.

Claim 98: The expression vector of claim 97, wherein said virus is vaccinia virus.

Claim 99: The expression vector of claim 97, wherein said virus is adenovirus.

Claim 100: Expression system useful in transfecting a cell, comprising (i) a first vector containing a nucleic acid molecule which codes for the isolated cancer associated antigen of claim 89 and (ii) a second vector selected from the group consisting of (a) a vector containing a nucleic acid molecule which codes for an MHC or HLA molecule which presents an antigen

derived from said cancer associated antigen and (b) a vector containing a nucleic acid molecule which codes for an interleukin.

Claim 101: Immunogenic composition comprising the isolated cancer antigen of claim 89, and a pharmaceutically acceptable adjuvant.

Claim 102: The immunogenic composition of claim 101, wherein said adjuvant is a cytokine, a saponin, or GM-CSF.

Claim 103: Immunogenic composition comprising at least one peptide consisting of an amino acid sequence of from 8 to 12 amino acids concatenated to each other in the isolated cancer associated cancer antigen of claim 89, and a pharmaceutically acceptable adjuvant.

Claim 104: The immunogenic composition of claim 103, wherein said adjuvant is a saponin, a cytokine, or GM-CSF.

Claim 105: The immunogenic composition of claim 102, wherein said composition comprises a plurality of peptides which complex with a specific MHC molecule.

Claim 106: Immunogenic composition which comprises at least one expression vector which encodes a peptide derived from the amino acid sequence encoded by SEQ ID NO: 15, 22 or 26.

Claim 107: The immunogenic composition of claim 106, wherein said at least one expression vector codes for a plurality of peptides.

Claim 108: Vaccine useful in treating a subject afflicted with a cancerous condition comprising the isolated eukaryotic cell line of claim 88 and a pharmacologically acceptable adjuvant.

Claim 109: The vaccine of claim 108, wherein said eukaryotic cell line has been rendered non-proliferative.

Claim 110: The vaccine of claim 109, wherein said eukaryotic cell line is a human cell line.

Claim 111: A composition of matter useful in treating a cancerous condition comprising a non-proliferative cell line having expressed on its surface a peptide derived from the amino acid sequence encoded by SEQ ID NO: 15, 22 or 26.

Claim 112: The composition of matter of claim 111, wherein said cell line is a human cell line.

Claim 113: A composition of matter useful in treating a cancerous condition, comprising (i) a peptide derived from the amino acid sequence encoded by SEQ ID NO: 15, 22 or 26, (ii) an MHC or HLA molecule, and (iii) a pharmaceutically acceptable carrier.

Claim 114: Isolated antibody which is specific for the cancer antigen of claim 89.

Claim 115: The isolated antibody of claim 114, wherein said antibody is a monoclonal antibody.

Claim 116: Method for screening for cancer in a sample, comprising contacting said sample with a nucleic acid molecule which hybridizes to all or part of the molecule encoded by SEQ ID NO: 15, 22 or 26 and determining hybridization as an indication of cancer cells in said sample.

Claim 117: A method for screening for cancer in a sample, comprising contacting said sample with the isolated antibody of claim 114, and determining binding of said antibody to a target as an indicator of cancer.

Claim 118: Method for diagnosing a cancerous condition in a subject, comprising contacting an immune reactive cell containing sample of said subject to a cell line transfected with the isolated nucleic acid molecule of claim 81, and determining interaction of said transfected cell line with said immunoreactive cell, said interaction being indicative of said cancer condition.

Claim 119: A method for determining regression, progression of onset of a cancerous condition comprising monitoring a sample from a patient with said cancerous condition for a parameter selected from the group consisting of (i) a protein encoded by SEQ ID NO: 15, 22 or 26, (ii) a peptide derived from said protein, (iii) cytolytic T cells specific for said peptide and an MHC molecule with which it non-covalently complexes, and (iv) antibodies specific for said CT protein, wherein amount of said parameter is indicative of progression or regression or onset of said cancerous condition.

Claim 120: The method of claim 119, wherein said sample is a body fluid or exudate.

Claim 121: The method of claim 119, wherein said sample is a tissue.

Claim 122: The method of claim 119, comprising contacting said sample with an antibody which specifically binds with said protein or peptide.

Claim 123: The method of claim 122, wherein said antibody is labelled with a radioactive label or an enzyme.

Claim 124: The method of claim 122, wherein said antibody is a monoclonal antibody.

Claim 125: The method of claim 119, comprising amplifying RNA which codes for said protein.

Claim 126: The method of claim 125, wherein said amplifying comprises carrying out polymerase chain reaction.

Claim 127: The method of claim 118, comprising contacting said sample with a nucleic acid molecule which specifically hybridizes to a nucleic acid molecule which codes for or expresses said protein.

Claim 128: The method of claim 127, wherein said nucleic acid molecule comprises SEQ ID NO: 17, 18, 20,21, 24, 25, 28 or 29.

Claim 129: The method of claim 119, comprising assaying said sample for shed protein.

Claim 130: The method of claim 119, comprising assaying said sample for antibodies specific for said protein, by contacting said sample with protein.

Claim 131: Method for diagnosing a cancerous condition comprising assaying a sample taken from a subject for an immunoreactive cell specific for a peptide derived from a protein encoded by SEQ ID NO: 15, 22 or 26, complexed to an MHC molecule, presence of said immunoreactive cell being indicative of said cancerous condition.

Claim 132: Composition comprising at least one peptide consisting of an amino acid sequence of from 8 to 25 amino acids concatenated to each other in the isolated cancer associated antigen of claim 89, and a pharmaceutically acceptable adjuvant.

Claim 133: The composition of claim 132, wherein said adjuvant is a saponin, a cytokine, or GM-CSF.

Claim 134: The composition of claim 132, comprising a plurality of MHC binding peptides.

Claim 135: Composition comprising an expression vector which encodes at least one peptide consisting of an amino acid sequence of from 8 to 25 amino acids concatenated to each other in the isolated cancer associated antigen of claim 89, and pharmaceutically acceptable adjuvant.

Claim 136: The composition of claim 135, wherein said expression vector encodes a plurality of peptides.

Claim 137: A method for screening for possible presence of a pathological condition, comprising assaying a sample from a patient believed to have a pathological condition for antibodies specific to at least one of the cancer associated antigens encoded by SEQ ID NO: 15, 22 or 26, presence of said antibodies being indicative of possible presence of said pathological condition.

Claim 138: The method of claim 137, wherein said pathological condition is cancer.

Claim 139: The method of claim 137, wherein said cancer is melanoma.

Claim 140: The method of claim 139, further comprising contacting said sample to a purified cancer associated antigen encoded by SEQ ID NO: 15, 22 or 26.

Claim 141: A method for screening for possible presence of a pathological condition in a subject, comprising assaying a sample taken from said subject for expression of a nucleic acid molecule, the nucleotide sequence of which comprises SEQ ID NO: 15, 22 or 26, expression of said nucleic acid molecule being indicative of possible presence of said pathological condition.

Claim 142: The method of claim 141, wherein said pathological condition is cancer.

Claim 143: The method of claim 141, comprising determining expression via polymerase chain reaction.

Claim 144: The method of claim 141, comprising determining expression by contacting said sample with at least one of SEQ ID NO: 17, 18, 20, 21, 24, 25, 28, or 29.

Claim 145: A method for determining regression, progression of onset of a cancerous condition comprising monitoring a sample from a patient with said cancerous condition for a parameter selected from the group consisting of (i) a cancer associated antigen encoded by SEQ ID NO: 15, 22 or 26 (ii) a peptide derived from said cancer associated antigen, (iii) cytolytic T cells specific for said peptide and an MHC molecule with which it non-covalently complexes, and (iv) antibodies specific for said cancer associated antigen, wherein amount of said parameter is indicative of progression or regression or onset of said cancerous condition.

Claim 146: The method of claim 145, wherein said sample is a body fluid or exudate.

Claim 147: The method of claim 145, wherein said sample is a tissue.

Claim 148: The method of claim 145, comprising contacting said sample with an antibody which specifically binds with said protein or peptide.

Claim 149: The method of claim 148, wherein said antibody is labelled with a radioactive label or an enzyme.

Claim 150: The method of claim 148, wherein said antibody is a monoclonal antibody.

Claim 151: The method of claim 145, comprising amplifying RNA which codes for said protein.

Claim 152: The method of claim 151, wherein said amplifying comprises carrying out polymerase chain reaction.